THEORETICAL POPULATION BIOLOGY

AN INTERNATIONAL JOURNAL

EDITORS

C. C. Cockerham

K. Dietz
S. Karlin
R. W. Hiorns
T. Schoener

ASSOCIATE EDITORS

N. T. J. Bailey
W. F. Bodmer
L. L. Cavalli-Sforza
B. C. Clarke
M. Cody
D. Cohen
J. E. Cohen
J. F. Crow
W. J. Ewens
J. Felsenstein
J. Gillespie
R. Ginsberg
D. Hartl
M. P. Hassell
W. G. Hill
J. M. Hoem
H. S. Horn
A. Jacquard
O. Kempthorne
N. Keyfitz
M. Kimura
B. Latter
S. Levin
R. C. Lewontin
C. Matessi
R. May
M. Nei
T. Ohta
S. Preston
T. Prout
A. Robertson
J. Roughgarden
J. Vandermeer
G. Watterson

MANAGING EDITOR

M. Feldman

VOLUME 11 · 1977

ACADEMIC PRESS
New York and London
A Subsidiary of Harcourt Brace Jovanovich, Publishers

Copyright © 1977 by Academic Press, Inc.

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

Printed by the St. Catherine Press, Ltd., Bruges, Belgium

CONTENTS OF VOLUME 11

Number 1, February 1977

P. T. Liu, L. P. Chow, and J. A. Menken. The IUD Follow-up Study: A Stochastic Model 1

Ranajit Chakraborty. Distribution of Nucleotide Differences between Two Randomly Chosen Cistrons in a Population of Variable Size . . 11

Niels G. Becker. On a General Stochastic Epidemic Model 23

Max A. Woodbury and Kenneth G. Manton. A Random-Walk Model of Human Mortality and Aging 37

Robert S. Gourley and Charles E. Lawrence. Stable Population Analysis in Periodic Environments 49

I. R. Franklin. The Distribution of the Proportion of the Genome Which Is Homozygous by Descent in Inbred Individuals 60

H.-R. Gregorius. The Genotypic Probability Structure of an Individual at the Head of a Pedigree 81

William M. Schaffer. Some Observations on the Evolution of Reproductive Rate and Competitive Ability in Flowering Plants 90

Joel Yellin and Paul Samuelson. Comparison of Linear and Nonlinear Models for Human Population Dynamics 105

W. G. Cumberland and Charles A. Rohde. A Multivariate Model for Growth of Populations 127

Number 2, April 1977

G. A. Watterson and H. A. Guess. Is The Most Frequent Allele The Oldest? 141

M. W. Feldman and L. L. Cavalli-Sforza. The Evolution of Continuous Variation. II. Complex Transmission and Assortative Mating 161

K. Wickwire. Mathematical Models for the Control of Pests and Infectious Diseases: A Survey 182

William G. Hill. Correlation of Gene Frequencies between Neutral Linked Genes in Finite Populations 239

C. C. Heyde. The Effect of Selection on Genetic Balance when the Population Size is Varying 249

William W. Murdoch. Stabilizing Effects of Spatial Heterogeneity in Predator–Prey Systems 252

J. F. C. Kingman. The Population Structure Associated with the Ewens Sampling Formula 274

J. F. C. KINGMAN. A Note on Multidimensional Models of Neutral Mutation 285

MASATOSHI NEI, ARAVINDA CHAKRAVARTI, AND YOSHIO TATENO. Mean and Variance of F_{ST} in a Finite Number of Incompletely Isolated Populations 291

MASATOSHI NEI AND ARAVINDA CHAKRAVARTI. Drift Variances of F_{ST} and G_{ST} Statistics Obtained from a Finite Number of Isolated Populations 307

WILLIAM M. SCHAFFER. Evolution, Population Dynamics, and Stability: A Comment 326

RICHARD K. KOEHN AND WALTER F. EANES. Subunit Size and Genetic Variation of Enzymes in Natural Populations of *Drosophila* 330

JAMES A. SCOTT AND G. A. H. MCCLELLAND. A Model of Polymorphism with Several Seasons and Several Habitats, and Its Application to the Mosquito *Aedes aegypti* 342

SAMUEL KARLIN. Gene Frequency Patterns in the Levene Subdivided Population Model 356

SAMUEL KARLIN AND RON S. KENETT. Variable Spatial Selection with Two Stages of Migrations and Comparisons between Different Timings 386

ILAN ESHEL. On the Founder Effect and the Evolution of Altruistic Traits: An Ecogenetical Approach 410

ERRATUM 425

AUTHOR INDEX FOR VOLUME 11 426